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UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 42

U. S. Naval Observatory, Washington 25, D. C.

April 15, 1953

SOLAR SUMMARY FOR 1952

The solar circulars which give the daily results of sunspot measures made at the U. S. Naval Observatory have been printed with the aid of punched cards since January, 1950. These cards have also been used to compile the Summary for 1952.

Table I gives the mean values of A , g , s , and r for each month and for the year.

Table II gives the same quantities for each day.

Table IIIa summarizes for each day the results for each group which was numbered at Mount Wilson. The first line contains the group number. The other lines list, for the entire group, in successive columns:

1. Date of observation: the month, day, and decimal of a day in U. T.
2. The mean heliographic longitude, L .
3. The mean heliographic latitude, φ .
4. The total area, A .
5. The total spot count, s .
6. The number of parts, p , which were listed separately in the monthly circulars.

The quantities L and φ are the unweighted means of the several parts. Hence, the appearance or disappearance of a small spot may affect the day-to-day values of L and φ . Similarly, these may be apparent changes in these quantities when the group is near the limb and the measures are uncertain.

An entry for January at the end of the table refers to 1953.

Table IIIb gives similar data for the unnumbered groups, that is, those marked by an asterisk in the monthly circulars. These groups generally consisted of a small spot which appeared on one day.

Table IV lists groups which may be recurrent. The data are derived from the Mount Wilson results given in the *Publications of the Astronomical Society of the Pacific*, which should be consulted for details.

In compiling this circular a number of discrepancies in the monthly circulars were found. The corrected results are given here, and the errata to the monthly circulars are given at the end of this circular.

TABLE I MONTHLY SUMMARY

	<i>A</i>	<i>g</i>	<i>s</i>	<i>r</i>
JANUARY	551	2.7	16	43
FEBRUARY	354	1.9	10	29
MARCH	229	2.2	11	33
APRIL	450	2.3	18	41
MAY	268	1.8	10	28
JUNE	439	3.5	15	50
JULY	649	2.8	20	48
AUGUST	790	4.4	24	68
SEPTEMBER	366	3.2	16	48
OCTOBER	427	1.8	17	35
NOVEMBER	521	1.7	19	36
DECEMBER	520	2.8	20	48
Mean	464	2.6	16	42

TABLE II DAILY SUMMARY

Date	A	g	s	r	Date	A	g	s	r
JANUARY					6	145	1	3	13
1	784	5	31	81	10	327	3	3	33
2	475	6	18	78	11	351	3	4	34
3	435	3	22	52	12	278	3	14	44
4	270	2	7	27	14	241	2	12	32
5	194	1	1	11	15	73	1	1	11
6	72	1	4	14	17	60	2	5	25
7	231	1	9	19	18	48	1	1	11
8	326	2	19	39	19	24	1	1	11
9	1127	4	23	63	20	0	0	0	0
10	1319	5	16	66	21	0	0	0	0
11	1087	4	16	56	22	0	0	0	0
13	1078	2	23	43	23	12	1	1	11
14	1283	4	38	78	24	209	2	5	25
15	1211	4	42	82	25	314	2	8	28
16	938	5	19	69	26	386	2	14	34
18	617	3	33	63	27	524	4	31	71
19	520	3	9	39	28	615	5	28	78
20	485	3	18	48	29	619	6	45	105
21	218	1	11	21	30	584	7	55	125
23	241	2	6	26	31	355	3	22	52
24	557	2	11	31	APRIL				
25	437	1	14	24	1	266	2	35	55
26	302	2	12	32	2	170	1	9	19
27	291	1	12	22	3	230	2	10	30
29	145	2	10	30	4	388	2	13	33
30	145	2	6	26	5	484	1	33	43
31	97	2	3	23	6	473	1	24	34
FEBRUARY					7	533	2	24	44
1	72	3	8	38	8	509	2	10	30
2	48	1	1	11	9	448	2	10	30
3	60	2	3	23	10	557	2	33	53
4	85	3	8	38	11	678	4	39	79
5	277	3	23	53	12	557	1	9	19
6	345	3	22	52	13	877	3	31	61
7	255	3	15	45	14	436	1	6	16
8	78	2	3	23	15	16	1	2	12
9	189	3	10	40	16	28	1	3	13
10	80	3	12	42	17	12	1	1	11
11	0	0	0	0	18	229	2	17	37
12	606	1	4	14	19	429	2	29	49
13	1102	2	10	30	20	636	4	23	63
14	1188	2	6	26	21	913	5	38	88
15	1017	2	38	58	22	1151	3	19	49
16	994	2	27	47	23	903	3	18	48
18	750	4	21	61	24	712	5	16	66
19	645	4	52	92	26	157	1	15	25
20	545	2	9	29	27	169	1	2	12
21	388	2	11	31	29	338	5	22	72
22	400	2	7	27	30	291	4	8	48
23	388	2	2	22	MAY				
24	388	2	2	22	1	115	3	6	36
25	24	1	2	12	2	36	1	1	11
26	0	0	0	0	3	16	1	1	11
27	0	0	0	0	4	168	3	14	44
28	0	0	0	0	5	285	3	13	43
29	0	0	0	0	6	689	4	24	64
MARCH					7	702	2	12	32
1	0	0	0	0	8	642	2	5	25
5	97	1	1	11					

TABLE II DAILY SUMMARY

Date	A	g	s	r	Date	A	g	s	r
9	0	0	0	0	6	131	2	11	31
10	0	0	0	0	7	34	1	7	17
11	24	1	2	12	8	500	3	7	37
12	0	0	0	0	9	1102	3	21	51
13	24	1	4	14	10	1411	4	18	58
14	61	1	4	14	11	1460	4	19	59
15	169	2	8	28	12	1515	3	23	53
16	121	1	1	11	13	1180	4	61	101
17	133	2	4	24	14	1098	6	64	124
18	231	1	6	16	15	911	4	60	100
19	206	2	29	49	16	1001	4	112	152
20	168	2	13	33	17	569	3	12	42
21	509	2	22	42	18	506	3	17	47
22	508	2	16	36	19	448	2	6	26
23	441	3	21	51	20	581	3	3	33
24	319	3	7	37	21	206	1	2	12
25	279	1	3	13	22	200	2	2	22
26	291	1	6	16	23	194	1	1	11
27	446	4	36	76	24	194	1	1	11
28	569	3	31	61	25	206	2	2	22
29	593	3	16	46	26	194	1	1	11
30	303	2	3	23	27	557	2	3	23
31	254	1	6	16	28	449	2	6	26
					29	545	2	11	31
					30	667	2	16	36
					31	739	5	32	82
JUNE					AUGUST				
1	375	2	5	25	1	395	3	18	48
2	315	2	7	27	2	260	3	30	60
3	16	1	5	15	3	193	2	27	47
4	24	2	6	26	4	378	4	23	63
5	0	0	0	0	5	483	6	23	83
6	28	2	15	35	6	375	4	9	49
7	88	3	14	44	7	840	5	12	62
8	24	2	4	24	8	763	5	17	67
9	96	1	5	15	9	625	5	12	62
10	36	2	13	33	10	605	4	5	45
11	18	1	2	12	11	557	4	11	51
12	72	2	27	47	12	508	5	21	71
13	121	2	20	40	13	429	4	31	71
14	163	3	10	40	14	435	3	17	47
15	605	5	18	68	15	478	3	27	57
16	545	4	5	45	16	678	4	27	67
17	556	4	19	59	17	563	4	17	57
18	547	6	20	80	18	484	4	8	48
19	586	5	11	61	19	403	4	4	44
20	578	6	21	81	20	629	2	4	24
21	630	5	16	66	21	775	2	10	30
22	609	5	25	75	22	499	4	17	57
23	1209	6	15	75	23	1016	5	26	76
24	885	4	16	56	24	1089	5	37	87
25	678	6	22	82	25	849	4	39	79
26	684	5	18	68	26	1374	8	43	123
27	841	6	27	87	27	2099	8	57	137
28	839	4	38	78	28	1986	5	24	74
29	1064	4	17	57	29	1635	5	33	83
30	952	5	34	84	30	1574	6	45	105
					31	1517	7	85	155
JULY					SEPTEMBER				
1	790	4	21	61	1	1160	6	78	138
2	894	5	19	69					
3	776	4	13	53					
4	824	3	35	65					
5	234	1	13	23					

TABLE II DAILY SUMMARY

Date	A	g	s	r	Date	A	g	s	r
2	1155	8	79	159	30	350	2	9	29
3	761	5	39	89	31	248	2	28	48
4	489	4	15	55	NOVEMBER				
5	519	4	16	56	1	98	2	25	45
6	490	6	12	72	2	64	1	11	21
7	320	5	14	64	3	24	2	6	26
8	36	2	3	23	4	48	3	12	42
9	18	2	3	23	5	72	1	2	12
10	12	1	2	12	6	254	1	9	19
11	24	1	1	11	7	405	2	34	54
12	12	1	1	11	8	339	2	7	27
13	0	0	0	0	9	347	3	29	59
14	0	0	0	0	10	239	2	19	39
15	30	2	11	31	11	158	2	2	22
16	290	2	4	24	12	206	4	6	46
17	340	2	9	29	13	212	2	20	40
18	273	3	15	45	14	242	2	5	25
19	193	3	3	33	16	751	1	7	17
20	315	3	9	39	17	980	1	17	27
21	653	4	15	55	18	841	2	58	78
22	434	3	34	64	19	984	2	52	72
23	713	5	21	71	20	1197	1	78	88
24	571	3	20	50	22	1220	1	19	29
25	508	3	24	54	23	1165	1	18	28
26	503	3	15	45	24	1226	2	26	46
27	415	3	23	53	25	1181	2	38	58
28	276	4	12	52	26	1089	1	24	34
29	242	4	6	46	27	1065	1	6	16
30	242	4	8	48	28	12	1	1	11
OCTOBER					29	12	1	2	12
1	200	2	3	23	30	161	2	2	22
2	161	2	4	24	DECEMBER				
3	153	4	6	46	1	149	2	7	27
4	425	3	5	35	2	109	1	9	19
5	676	3	34	64	3	54	1	6	16
6	556	3	9	39	4	88	1	13	23
7	466	2	12	32	5	400	2	23	43
8	545	2	8	28	6	447	2	24	44
9	375	1	22	32	8	504	3	104	134
10	333	2	22	42	9	342	3	73	103
11	321	1	30	40	10	267	3	39	69
12	331	1	7	17	11	306	3	22	52
13	315	1	4	14	12	623	4	9	49
14	267	1	7	17	13	854	5	51	101
15	254	1	5	15	14	1601	5	18	68
16	194	1	1	11	15	1451	5	26	76
17	0	0	0	0	16	1618	5	29	79
18	0	0	0	0	17	1102	4	10	50
19	411	1	7	17	18	967	5	16	66
20	521	1	10	20	19	642	4	5	45
21	812	1	9	19	21	682	3	18	48
22	746	1	26	36	22	575	4	6	46
23	711	2	28	48	23	412	2	7	27
24	761	3	28	58	24	194	1	1	11
25	786	3	32	62	26	24	1	2	12
26	594	3	114	144	28	12	1	2	12
27	601	2	18	38	29	52	3	7	37
28	606	2	8	28	30	36	1	2	12
29	507	2	35	55					

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
		°	°						°	°			
10858	1 1.762	278	- 7	145	6	2							
	1 2.738	281	- 7	24	2	1		1 24.674	52	+ 4	97	1	1
10860	1 1.762	218	+ 6	36	1	1	10871	1 20.726	97	-12	12	2	2
	1 2.738	218	+ 7	36	1	1	10872	1 23.681	282	-10	193	5	2
10861	1 2.738	269	- 9	16	3	1		1 24.674	283	-10	460	10	3
	1 3.699	271	-11	97	15	2		1 25.672	284	-11	437	14	3
	1 4.649	272	- 8	64	6	3		1 26.758	284	-10	290	10	3
10862	1 6.689	241	-19	72	4	2		1 27.826	283	-10	291	12	3
	1 7.640	241	-18	231	9	3		1 29.650	286	-11	133	9	2
10864	1 8.721	207	+10	84	18	3		1 30.706	286	-11	85	2	2
	1 9.674	207	+10	97	10	3		1 31.716	287	-10	85	2	2
	1 10.803	208	+11	36	1	1		2 1.644	287	-10	48	1	1
	1 11.683	209	+11	24	1	1		2 2.719	285	-10	48	1	1
								2 3.739	285	-10	36	1	1
10865	1 8.721	116	+13	242	1	1	10873	1 26.758	281	+ 8	12	2	1
	1 9.674	115	+13	339	6	2	10874	1 30.706	191	+12	60	4	2
	1 10.803	114	+12	297	2	2		1 31.716	192	+13	12	1	1
	1 11.683	118	+12	291	1	1		2 1.644	193	+13	12	6	1
	1 13.685	116	+13	267	5	2	10875	2 1.644	215	+12	12	1	1
	1 14.667	118	+12	170	5	2	10876	2 3.739	228	-18	24	2	1
	1 15.732	117	+11	133	7	3		2 4.742	228	-17	12	1	1
	1 16.647	118	+12	121	3	2	10877	2 4.742	194	-10	12	3	1
	1 18.688	116	+15	48	2	2	10878	2 4.742	151	-22	61	4	1
	1 19.746	112	+13	36	2	1		2 5.676	149	-22	145	13	2
10866	1 9.674	98	+ 8	679	5	2		2 6.666	149	-23	133	8	3
	1 10.803	97	+ 7	805	8	5		2 7.649	149	-23	97	5	2
	1 11.683	97	+ 7	736	12	6		2 8.641	152	-23	48	1	1
	1 13.685	99	+ 7	811	18	5		2 9.665	153	-23	73	3	1
	1 14.667	100	+ 7	763	17	4		2 10.748	153	-24	48	7	2
	1 15.732	101	+ 7	582	12	4	10879	2 5.676	173	0	84	9	2
	1 16.647	103	+ 6	484	5	2		2 6.666	171	- 2	134	10	2
	1 18.688	103	+ 8	351	4	3		2 7.649	174	+ 1	24	2	1
	1 19.746	104	+ 6	339	1	1		2 10.748	174	- 1	16	1	1
	1 20.726	105	+ 7	291	1	1	10880	2 5.676	106	+10	48	1	1
10867	1 10.803	226	- 2	145	2	2	10881	2 6.666	174	- 4	78	4	3
	1 11.683	227	- 2	36	2	1		2 7.649	172	- 2	134	8	2
10868	1 10.803	138	+12	36	3	1		2 8.641	172	- 2	30	2	2
10869	1 14.667	142	+ 9	84	6	2		2 9.665	173	0	32	2	2
	1 15.732	143	+ 8	145	8	2	10882	2 9.665	150	- 1	84	5	3
	1 16.647	143	+ 8	54	2	2		2 10.748	148	- 3	16	4	1
10870	1 14.667	44	+ 2	266	10	3	10883	2 12.647	11	-11	606	4	3
	1 15.732	44	+ 4	351	15	2		2 13.650	7	-11	1078	9	5
	1 16.647	47	+ 3	267	8	3							
	1 18.688	46	+ 4	218	27	5							
	1 19.746	48	+ 3	145	6	2							
	1 20.726	50	+ 4	182	15	3							
	1 21.695	48	+ 3	218	11	3							
	1 23.681	52	+ 4	48	1	1							

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	ϕ	A	s	p	No.	Date	L	ϕ	A	s	p
		°	°						°	°			
	2 14.769	9	-12	1018	5	5		3 28.650	185	-2	97	3	1
	2 15.674	8	-11	860	29	6		3 29.725	182	-3	97	9	1
	2 16.694	7	-12	824	23	6		3 30.759	184	-4	169	20	3
	2 18.644	10	-11	641	16	6		3 31.641	186	-3	194	11	3
	2 19.642	7	-11	524	40	5		4 1.758	183	-3	254	27	3
	2 20.689	8	-11	484	8	5		4 2.690	186	-4	170	9	2
	2 21.647	10	-11	327	10	3		4 3.648	187	-3	134	8	2
	2 22.640	12	-11	291	1	1		4 4.645	187	-3	61	3	1
	2 23.635	13	-11	291	1	1							
	2 24.736	11	-11	291	1	1							
10884	2 13.650	1	+18	24	1	1	10893	3 27.645	253	+8	60	5	2
	2 14.769	2	+17	170	1	1		3 28.650	253	+8	72	5	2
	2 15.674	0	+18	157	9	2		3 29.725	255	+10	48	1	1
	2 16.694	358	+18	170	4	2		3 30.759	256	+7	12	1	1
	2 18.644	359	+18	79	2	2	10894	3 27.645	189	-17	64	7	2
	2 19.642	359	+20	73	1	1		3 28.650	190	-19	84	9	3
	2 20.689	0	+21	61	1	1		3 29.725	189	-19	72	3	2
	2 21.647	0	+21	61	1	1		3 30.759	192	-19	24	5	1
	2 22.640	0	+21	109	6	2							
	2 23.635	359	+21	97	1	1	10895	3 28.650	227	-3	48	1	1
	2 24.736	358	+21	97	1	1		3 29.725	226	-4	60	5	2
10885	2 18.644	327	-15	24	2	2		3 30.759	228	-4	40	7	2
	2 19.642	326	-15	24	8	2		3 31.641	232	-4	60	3	2
10886	3 5.643	80	+13	97	1	1	10896	3 29.725	212	-9	16	1	1
	3 6.656	82	+12	145	3	1		3 30.759	214	-10	18	2	2
	3 10.645	82	+12	36	1	1							
10888	3 10.645	18	-11	194	1	1	10897	3 30.759	164	-7	6	1	1
	3 11.660	20	-12	157	2	2							
	3 12.645	16	-12	109	11	3	10898	4 3.648	70	+6	96	2	2
	3 14.649	16	-10	132	11	3		4 4.645	70	+5	327	10	4
10889	3 10.645	10	-15	97	1	1		4 5.701	70	+6	484	33	5
	3 11.660	10	-15	170	1	1		4 6.801	69	+5	473	24	6
	3 12.645	11	-15	121	1	1		4 7.656	71	+6	509	20	5
	3 14.649	10	-13	109	1	1		4 8.652	71	+5	461	8	5
	3 15.628	9	-11	73	1	1		4 9.652	71	+5	327	7	3
	3 17.653	11	-12	48	1	1		4 10.651	71	+5	363	20	3
	3 18.658	11	-12	48	1	1		4 11.649	71	+5	521	29	5
	3 19.783	11	-12	24	1	1		4 12.789	71	+6	557	9	3
10890	3 12.645	79	+13	48	2	1		4 13.707	71	+6	847	25	4
10891	3 24.677	240	-6	64	4	4		4 14.667	70	+5	436	6	2
	3 25.660	239	-8	108	6	4	10899	4 7.656	110	+3	24	4	1
	3 26.651	241	-8	181	10	4		4 8.652	110	+3	48	2	2
	3 27.645	241	-8	218	15	3		4 9.652	113	+3	121	3	1
	3 28.650	243	-8	314	10	3		4 10.651	111	+3	194	13	2
	3 29.725	240	-8	326	26	5		4 11.649	110	+3	24	4	1
	3 30.759	242	-8	315	19	4	10901	4 11.649	105	+18	121	4	1
	3 31.641	243	-7	101	8	3	10902	4 11.649	28	+18	12	2	2
10892	3 24.677	183	-3	145	1	1	10903	4 13.707	317	-12	18	2	2
	3 25.660	182	-2	206	2	2	10904	4 15.660	19	+10	16	2	1
	3 26.651	184	-2	205	4	4							
	3 27.645	184	-2	182	4	2							

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
10905	4 16.585	13	+13	28	3	2	5 5.717	127	-3	218	9	4	
							5 6.660	128	-3	411	12	4	
							5 7.642	124	-3	242	5	2	
10906	4 17.670	296	-9	12	1	1							
	4 18.653	295	-9	217	13	4							
	4 19.672	297	-9	389	18	6	10920	5 4.651	84	+6	12	3	1
	4 20.722	299	-9	497	12	4							
	4 21.644	298	-9	630	19	4	10921	5 5.717	107	-9	61	3	1
	4 22.678	298	-9	945	12	4		5 6.660	108	-10	254	8	3
	4 23.644	297	-8	740	10	3		5 7.642	108	-9	460	7	3
	4 24.614	299	-9	557	2	2		5 8.786	108	-9	630	3	2
10907	4 18.653	270	+6	12	4	1							
	4 19.672	271	+9	40	11	2	10923	5 6.660	42	+15	12	1	1
	4 20.722	274	+9	121	8	4							
	4 21.644	277	+9	36	8	2	10924	5 6.660	68	+7	12	3	1
10908	4 20.722	195	-5	6	2	1							
	4 21.644	198	-4	42	6	2	10926	5 11.579	303	-12	24	2	1
10909	4 21.644	242	-13	12	3	1							
	4 22.678	242	-13	12	1	1	10927	5 13.730	303	-12	24	4	1
								5 14.712	303	-11	61	4	1
10910	4 21.644	181	+16	193	2	2	10928	5 15.651	227	-9	157	7	2
	4 22.678	182	+16	194	6	2		5 16.674	229	-9	121	1	1
	4 23.644	186	+16	157	7	3		5 17.743	228	-9	121	3	2
	4 24.614	185	+15	113	7	3		5 18.808	229	-8	231	6	3
	4 26.602	187	+14	157	15	4		5 19.603	228	-8	194	28	4
	4 27.616	186	+15	169	2	2		5 20.676	228	-8	156	12	4
	4 29.775	187	+17	73	7	2		5 21.660	229	-8	170	21	3
	4 30.650	188	+15	61	3	1		5 22.661	230	-8	120	15	3
	5 1.642	187	+15	61	2	1		5 23.657	232	-7	60	9	2
								5 24.585	233	-10	16	4	1
10911	4 23.644	278	+6	6	1	1	10929	5 19.603	210	+4	12	1	1
	4 24.614	275	+7	18	3	2							
10912	4 24.614	258	-13	12	2	2	10930	5 20.676	256	-5	12	1	1
10913	4 24.614	253	-8	12	2	1							
10914	4 29.775	204	-2	84	8	3	10932	5 21.660	135	-3	339	1	1
	4 30.650	204	-1	145	3	3		5 22.661	136	-3	388	1	1
								5 23.657	137	-3	357	9	3
								5 24.585	138	-3	291	1	1
								5 25.671	137	-3	279	3	2
								5 26.652	138	-4	291	6	2
								5 27.649	138	-3	266	9	3
								5 28.649	139	-3	254	11	2
								5 29.651	139	-4	254	7	2
								5 30.797	139	-4	206	2	2
								5 31.662	140	-2	254	6	3
								6 1.726	140	-3	351	4	3
								6 2.646	138	-3	291	3	2
10915	4 29.775	83	+5	36	1	1							
	4 30.650	84	+6	12	1	1	10933	5 24.585	192	-6	12	2	2
	5 1.642	82	+6	6	1	1							
10916	4 29.775	72	+6	121	2	2	10935	5 27.649	182	-20	96	11	2
	4 30.650	67	+5	73	1	1		5 28.649	183	-20	206	3	2
	5 1.642	70	+6	48	3	2		5 29.651	183	-20	291	2	2
	5 2.642	68	+5	36	1	1		5 30.797	178	-20	97	1	1
	5 3.669	68	+5	16	1	1							
	5 4.651	68	+5	12	1	1							
	5 5.717	67	+5	6	1	1							
10919	5 4.651	125	-2	144	10	3							

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
		°	°						°	°			
10936	5 27.649	172	+10	72	15	2							
	5 28.649	173	+11	109	17	2		6 17.649	172	-21	230	2	2
	5 29.651	173	+11	48	7	2		6 18.649	172	-22	193	2	2
								6 19.649	169	-20	187	2	2
								6 20.660	169	-22	163	2	2
10937	5 27.649	172	-8	12	1	1		6 21.567	171	-21	109	1	1
								6 22.590	171	-21	97	1	1
								6 23.694	171	-21	97	1	1
10940	6 1.726	2	+12	24	1	1		6 24.650	171	-22	61	1	1
	6 2.646	3	+12	24	4	2		6 25.651	172	-22	48	1	1
	6 3.649	4	+12	16	5	1		6 26.647	171	-22	48	1	1
								6 27.649	172	-22	73	2	1
10941	6 4.647	22	-8	12	3	2	10951	6 17.649	215	-19	48	5	2
								6 18.649	214	-19	12	2	1
10942	6 6.658	62	-8	16	7	1							
	6 7.628	63	-9	48	8	2	10952	6 18.649	219	-19	52	7	2
								6 19.649	219	-19	133	6	2
10943	6 6.658	311	-10	12	8	1		6 20.660	220	-19	218	13	3
	6 7.628	311	-11	16	3	1		6 21.567	219	-18	376	12	4
								6 22.590	221	-19	363	8	3
10944	6 7.628	9	+12	24	3	2		6 23.694	218	-19	339	4	2
10945	6 8.688	49	-9	12	1	1	10953	6 18.649	135	+12	48	1	1
								6 19.649	135	+11	48	1	1
10946	6 8.688	268	-5	12	3	1		6 20.660	136	+11	36	1	1
	6 9.662	267	-5	96	5	2		6 21.567	136	+12	24	1	1
	6 10.713	269	-5	30	10	3		6 22.590	140	+13	40	7	3
	6 11.651	270	-5	18	2	2		6 23.694	139	+12	22	4	2
	6 12.648	273	-6	36	14	1		6 24.650	138	+11	12	1	1
	6 13.646	272	-6	97	9	2		6 25.651	138	+10	12	7	1
	6 14.647	274	-5	133	4	3	10954	6 20.660	232	+11	12	1	1
	6 15.672	274	-6	218	6	3							
	6 16.650	275	-6	194	1	1	10955	6 20.660	105	+15	121	1	1
	6 17.649	274	-6	218	4	2		6 21.567	106	+15	97	1	1
	6 18.649	277	-5	194	1	1		6 22.590	108	+15	97	5	1
	6 19.649	276	-5	194	1	1		6 23.694	106	+15	157	4	2
								6 24.650	107	+14	133	7	2
10947	6 12.648	265	-6	36	13	1		6 25.651	106	+15	97	4	3
	6 13.646	265	-6	24	11	2		6 26.647	107	+15	73	8	2
	6 14.647	267	-5	12	3	1		6 27.649	108	+16	48	1	1
	6 15.672	262	-5	6	1	1		6 28.649	107	+17	24	1	1
								6 29.669	107	+17	48	1	1
10948	6 14.647	269	+7	18	3	2		6 30.590	109	+17	24	4	1
	6 15.672	269	+6	48	6	2	10956	6 23.694	144	+13	12	1	1
	6 16.650	267	+6	12	1	1							
10949	6 15.672	215	+16	42	4	3	10957	6 23.694	68	-10	582	1	1
	6 16.650	213	+17	97	2	2		6 24.650	68	-12	679	7	2
	6 17.649	214	+17	60	8	2		6 25.651	69	-12	509	8	2
	6 18.649	216	+17	48	7	2		6 26.647	69	-11	539	4	2
	6 19.649	215	+17	24	1	1		6 27.649	70	-11	557	4	2
	6 20.660	214	+17	28	3	2		6 28.649	68	-11	557	13	2
	6 21.567	216	+17	24	1	1		6 29.669	72	-10	581	2	2
	6 22.590	217	+17	12	4	1		6 30.590	72	-9	609	11	5
								7 1.651	73	-11	436	1	1
10950	6 15.672	170	-20	291	1	1		7 2.650	71	-9	491	2	2
	6 16.650	171	-20	242	1	1		7 3.653	72	-10	485	1	1
								7 4.592	74	-10	582	1	1

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
		°	°						°	°			
10958	6 25.651	166	-10	6	1	1	10972	7 8.651	218	-3	242	3	2
							7 9.767	216	-3	727	15	1	
							7 10.701	216	-4	1115	11	2	
10959	6 25.651	45	+18	6	1	1	7 11.653	219	-4	1200	13	4	
	6 26.647	50	+20	12	2	2	7 12.697	218	-3	1164	18	4	
							7 13.592	218	-3	824	40	6	
10961	6 27.649	75	-6	54	8	2	7 14.659	219	-4	739	36	4	
	6 28.649	75	-5	112	12	3	7 15.663	220	-3	629	45	6	
	6 29.669	76	-7	96	2	2	7 16.604	220	-2	664	73	7	
	6 30.590	79	-5	12	1	1	7 17.656	220	-1	345	9	4	
	7 1.651	71	-10	36	3	2	7 18.668	219	-3	319	13	4	
	7 2.650	72	-6	24	4	3	7 19.657	220	-1	303	5	2	
	7 3.653	74	-8	6	1	1	7 20.592	220	-3	242	1	1	
	7 4.592	75	-7	12	1	1							
							10973	7 10.701	276	-13	12	2	2
10962	6 26.647	62	+13	12	3	2	7 11.653	280	-13	6	2	1	
	6 27.649	65	+14	12	1	1							
							10974	7 13.592	288	-6	6	2	1
10963	6 27.649	33	-11	97	11	2							
	6 28.649	34	-11	146	12	3	10975	7 14.659	246	-16	24	4	1
	6 29.669	36	-11	339	12	3	7 15.663	246	-16	28	7	2	
	6 30.590	40	-9	295	16	4	7 16.604	246	-13	85	13	2	
	7 1.651	40	-11	302	15	5	7 17.656	248	-14	61	1	1	
	7 2.650	40	-11	315	6	3	7 18.668	248	-15	24	2	1	
	7 3.653	41	-11	279	10	3							
	7 4.592	43	-10	230	33	3	10976	7 14.659	191	-9	16	9	1
	7 5.579	42	-9	234	13	4							
	7 6.574	44	-9	119	8	3							
							10977	7 14.659	181	+14	12	2	1
10965	6 30.590	64	+13	12	2	1	7 15.663	182	+14	12	3	1	
	7 1.651	65	+12	16	2	1							
	7 2.650	67	+14	24	4	1							
							10978	7 16.604	164	+10	6	1	1
10968	7 3.653	353	+4	6	1	1							
							10979	7 20.592	75	-11	194	1	1
10969	7 6.574	277	+7	12	3	1	7 21.653	71	-12	206	2	2	
	7 7.582	279	+7	34	7	3	7 22.653	73	-12	194	1	1	
	7 8.651	281	+7	16	3	1	7 23.653	73	-12	194	1	1	
	7 9.767	284	+7	84	5	3	7 24.652	74	-12	194	1	1	
	7 10.701	285	+6	42	4	2	7 25.652	74	-12	194	1	1	
	7 11.653	289	+6	24	1	1	7 26.655	74	-12	194	1	1	
	7 12.697	289	+6	61	1	1	7 27.774	73	-12	218	1	1	
	7 13.592	291	+7	6	2	1	7 28.658	74	-12	194	1	1	
	7 14.659	291	+6	16	3	1	7 29.654	74	-11	194	1	1	
							7 30.655	75	-11	194	1	1	
							7 31.610	73	-12	170	1	1	
10971	7 8.651	220	+10	242	1	1							
	7 9.767	222	+10	291	1	1	10980	7 25.652	90	+7	12	1	1
	7 10.701	222	+10	242	1	1							
	7 11.653	224	+11	230	3	2	10981	7 27.774	341	-9	339	2	2
	7 12.697	225	+11	290	4	3	7 28.658	341	-8	255	5	3	
	7 13.592	224	+12	344	17	4	7 29.654	341	-9	351	10	3	
	7 14.659	225	+10	291	10	3	7 30.655	341	-9	473	15	3	
	7 15.663	224	+12	242	5	2	7 31.610	342	-8	533	28	5	
	7 16.604	223	+12	246	25	4	8 1.658	343	-11	363	15	3	
	7 17.656	225	+12	163	2	2	8 2.601	343	-9	218	24	4	
	7 18.668	223	+12	163	2	2	8 3.756	345	-11	121	18	3	
	7 19.657	223	+11	145	1	1	8 4.651	345	-10	72	11	2	
	7 20.592	225	+11	145	1	1	8 5.653	344	-10	24	6	2	

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
		°	°						°	°			
10982	7 31.610	14	+12	6	1	1	8 13.674	187	+13	303	12	3	
							8 14.651	186	+14	278	8	3	
							8 15.647	189	+14	206	6	2	
10983	7 31.610	288	+ 6	24	1	1	8 16.780	188	+14	157	5	2	
	8 1.658	288	+ 6	16	1	1	8 17.592	189	+13	163	3	3	
	8 2.601	289	+ 6	12	1	1	8 18.667	188	+12	145	1	1	
							8 19.661	189	+13	145	1	1	
10984	7 31.610	45	- 8	6	1	1							
10986	8 1.658	323	-11	16	2	1	10999	8 12.651	199	- 9	48	5	1
	8 2.601	327	-10	30	5	3	8 13.674	199	-10	96	14	2	
							8 14.651	201	- 9	145	8	3	
							8 15.647	201	-10	266	20	3	
10987	8 3.756	294	+ 3	72	9	2	8 16.780	202	-10	255	9	4	
	8 4.651	295	+ 3	84	5	2	8 17.592	204	- 9	267	4	2	
	8 5.653	295	+ 3	48	13	2	8 18.667	209	-10	218	4	2	
	8 6.826	292	+ 3	73	4	1							
	8 7.716	293	+ 4	169	3	3	11000	8 12.651	193	- 8	24	4	1
	8 8.600	293	+ 4	121	11	3	8 13.674	192	- 8	6	4	1	
	8 9.851	297	+ 4	61	1	1							
	8 10.673	297	+ 4	48	1	1	11001	8 16.780	75	-12	230	5	3
	8 11.665	298	+ 4	48	1	1	8 17.592	76	-14	97	1	1	
10988	8 4.651	19	+12	77	6	2	8 18.667	75	-14	97	1	1	
	8 5.653	16	+13	48	1	1	8 19.661	76	-14	48	1	1	
							8 20.724	76	-14	48	1	1	
							8 21.715	75	-13	48	1	1	
10989	8 4.651	224	+ 8	145	1	1	8 22.648	79	-13	36	3	2	
	8 5.653	225	+ 8	145	1	1	8 23.659	79	-13	24	1	1	
	8 6.826	224	+ 7	121	1	1	8 24.668	77	-15	12	2	1	
	8 7.716	224	+ 7	109	1	1							
	8 8.600	225	+ 7	97	1	1	11002	8 16.780	146	+13	36	8	2
	8 9.851	224	+ 7	73	1	1	8 17.592	147	+14	36	9	1	
	8 10.673	224	+ 7	73	1	1	8 18.667	149	+13	24	2	1	
	8 11.665	224	+ 7	73	1	1	8 19.661	151	+13	16	1	1	
	8 12.651	224	+ 7	36	1	1							
10990	8 5.653	225	- 6	97	1	1	11003	8 19.661	22	+10	194	1	1
	8 6.826	224	- 5	60	3	2	8 20.724	21	+10	581	3	2	
	8 7.716	223	- 6	36	1	1	8 21.715	20	+11	727	9	4	
	8 8.600	224	- 5	12	1	1	8 22.648	21	+10	411	8	5	
	8 9.851	221	- 6	24	2	2	8 23.659	23	+10	545	8	4	
							8 24.668	24	+10	387	15	4	
10991	8 5.653	208	- 9	121	1	1	8 25.647	24	+10	357	14	4	
	8 6.826	213	- 9	121	1	1	8 26.660	24	+10	352	10	2	
	8 7.716	211	- 8	139	3	3	8 27.657	25	+10	339	11	2	
	8 8.600	214	- 7	97	1	1	8 28.747	25	+ 9	242	3	1	
	8 9.851	213	- 8	67	2	2	8 29.685	26	+ 9	157	8	2	
	8 10.673	214	- 9	48	1	1	8 30.663	25	+ 8	242	5	1	
	8 11.665	214	- 9	48	1	1	8 31.639	24	+10	194	4	1	
	8 12.651	214	- 8	36	1	1							
	8 13.674	214	- 8	24	1	1	11004	8 22.648	127	+ 6	24	3	1
	8 14.651	216	- 8	12	1	1							
	8 15.647	215	- 8	6	1	1	11005	8 22.648	352	-15	28	3	2
							8 23.659	354	-14	339	6	2	
10995	8 7.716	184	+13	387	4	2	8 24.668	355	-14	509	7	3	
	8 8.600	187	+14	436	3	3	8 25.647	356	-15	302	10	3	
	8 9.851	186	+12	400	6	3	8 26.660	356	-15	321	9	3	
	8 10.673	185	+13	436	2	2	8 27.657	355	-13	327	21	3	
	8 11.665	185	+12	388	8	3	8 28.747	356	-14	290	3	2	
	8 12.651	186	+14	364	10	4	8 29.685	356	-16	303	3	2	
							8 30.663	358	-16	242	1	1	
							8 31.639	358	-15	218	1	1	

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	<i>L</i>	φ	<i>A</i>	<i>s</i>	<i>p</i>	No.	Date	<i>L</i>	φ	<i>A</i>	<i>s</i>	<i>p</i>
	9 1,699	359	-16	242	1	1							
	9 2,644	1	-15	291	1	1							
11006	8 23,659	129	+ 3	36	3	1							
11008	8 23,659	13	+ 7	72	8	2							
	8 24,668	13	+ 8	145	8	2							
	8 25,647	15	+ 7	174	13	3							
	8 26,660	15	+ 6	96	12	2							
	8 27,657	15	+ 8	84	9	2							
11009	8 24,668	15	+12	36	5	2							
	8 26,660	12	+13	12	6	1							
	8 27,657	13	+11	84	5	2							
11013	8 25,647	17	+17	16	2	1							
	8 26,660	22	+13	12	3	1							
11015	8 26,660	296	- 4	242	1	1							
	8 27,657	291	- 6	636	5	3							
	8 28,747	292	- 7	800	7	3							
	8 29,685	294	- 7	775	8	2							
	8 30,663	292	- 5	691	20	4							
	8 31,639	295	- 4	690	35	5							
	9 1,699	294	- 4	550	35	8							
	9 2,644	294	- 5	545	34	7							
	9 3,656	294	- 5	460	20	7							
	9 4,645	297	- 5	405	9	4							
	9 5,643	298	- 5	375	4	2							
	9 6,729	300	- 5	412	3	2							
	9 7,660	298	- 5	242	1	1							
11016	8 26,660	290	+ 5	194	1	1							
	8 27,657	295	+ 4	387	2	2							
	8 28,747	293	+ 4	387	8	2							
	8 29,685	296	+ 2	206	8	2							
	8 30,663	296	+ 4	206	6	2							
	8 31,639	296	+ 4	206	7	1							
	9 1,699	294	+ 3	24	6	4							
	9 2,644	293	+ 1	24	11	3							
11017	8 26,660	290	+ 3	145	1	1							
	8 27,657	288	+ 5	145	3	1							
	8 28,747	289	+ 4	267	3	3							
	8 29,685	290	+ 4	194	6	1							
	8 30,663	289	+ 4	145	11	1							
	8 31,639	289	+ 4	121	14	1							
	9 1,699	291	+ 4	272	28	5							
	9 2,644	293	+ 5	211	22	6							
	9 3,656	292	+ 4	132	14	5							
	9 4,645	293	+ 3	60	4	2							
	9 5,643	296	+ 3	48	2	1							
	9 6,729	297	+ 3	36	4	2							
	9 7,660	297	+ 4	12	1	1							
11018	8 27,657	285	+ 2	97	1	1							
11019	8 30,663	265	-11	48	2	1							
	8 31,639	265	-11	40	11	3							
	9 1,699	262	-14	36	2	1							
	9 2,644	263	-13	12	3	2							
	9 3,656	258	-16	12	2	1							
11020	8 31,639	352	-13	48	13	1							
	9 1,699	351	-15	36	6	2							
	9 2,644	355	-13	48	3	1							
	9 3,656	350	-12	145	2	1							
11021	9 2,644	278	+25	12	2	1							
11022	9 3,656	275	+13	12	1	1							
11023	9 4,645	228	- 8	12	1	1							
	9 5,643	229	- 8	12	2	1							
	9 6,729	229	- 8	6	1	1							
11024	9 4,645	180	- 7	12	1	1							
	9 5,643	180	- 8	84	8	3							
	9 6,729	184	- 8	24	2	1							
	9 7,660	183	- 9	36	7	2							
11025	9 7,660	212	- 6	6	1	1							
11026	9 8,656	161	- 3	24	2	1							
11027	9 9,662	189	+15	6	1	1							
	9 10,649	193	+15	12	2	1							
11028	9 9,662	182	- 9	12	2	1							
11029	9 15,616	103	+16	18	8	3							
11030	9 16,644	21	+12	145	2	1							
	9 17,642	22	+12	97	3	1							
	9 18,649	22	+12	73	6	1							
	9 19,787	21	+11	48	1	1							
	9 20,663	23	+10	36	5	1							
	9 21,672	23	+10	24	3	1							
	9 22,603	22	+10	6	7	1							
	9 23,653	23	+11	12	2	1							
11031	9 16,644	16	+15	145	2	1							
	9 17,642	19	+14	243	6	2							
	9 18,649	19	+14	103	8	3							
	9 19,787	21	+13	48	1	1							
	9 21,672	22	+11	24	1	1							
11033	9 18,649	355	-13	97	1	1							
	9 19,787	357	-13	97	1	1							
	9 20,663	357	-14	85	3	1							
	9 21,672	359	-14	72	4	2							
	9 22,603	358	-15	48	10	1							

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
		°	°						°	°			
	9 23.653	357	-15	36	2	1	11044	10 4,676	229	-7	80	2	2
	9 24.640	358	-16	32	2	1	10 5,639	228	-7	34	11	3	
	9 25.660	358	-16	32	1	1	10 6,653	231	-8	84	2	2	
	9 26.658	358	-17	12	1	1	10 7,615	231	-11	12	1	1	
	9 27.647	358	-17	32	3	1	10 8,640	226	-9	36	1	1	
	9 28.749	0	-15	12	1	1							
	9 29.684	358	-16	12	1	1							
11034	9 20.663	320	+4	194	1	1	11045	10 10,617	171	+11	6	1	1
	9 21.672	317	+6	533	7	2	11046	10 19,737	311	+3	411	7	3
	9 22.603	317	+4	380	17	4	10 20,629	309	+3	521	10	6	
	9 23.653	318	+3	435	12	3	10 21,633	307	+3	812	9	5	
	9 24.640	320	+3	345	15	5	10 22,647	306	+2	746	26	7	
	9 25.660	319	+3	282	22	5	10 23,650	307	+3	699	27	7	
	9 26.658	321	+3	309	13	5	10 24,631	308	+3	715	24	7	
	9 27.647	320	+2	201	17	3	10 25,617	308	+2	677	28	9	
	9 28.749	320	+3	113	8	3	10 26,624	308	+3	516	95	9	
	9 29.684	323	+2	30	3	3	10 27,640	309	+2	432	13	6	
	9 30.653	321	+2	24	3	1	10 28,853	310	+3	388	5	4	
10 1.727	314	+4	6	1	1	1	10 29,629	311	+3	307	12	4	
							10 30,637	314	+1	242	3	2	
							10 31,632	315	+4	97	1	1	
11035	9 23.653	298	-6	218	3	1	11047	10 24,631	315	+7	40	3	3
	9 24.640	300	-5	194	3	1	10 25,617	312	+6	36	3	3	
	9 25.660	301	-6	194	1	1	10 26,624	313	+7	30	10	2	
	9 26.658	302	-6	182	1	1							
	9 27.647	301	-6	182	3	1	11049	10 25,617	219	+14	73	1	1
	9 28.749	303	-7	145	2	1	10 26,624	222	+15	48	9	2	
	9 29.684	302	-6	194	1	1	10 27,640	220	+15	169	5	2	
	9 30.653	302	-6	182	3	1	10 28,853	220	+15	218	3	2	
10 1.727	304	-7	194	2	2	1	10 29,629	219	+14	200	23	6	
10 2.647	302	-7	133	1	1	1	10 30,637	221	+12	108	6	3	
10 3.642	303	-7	97	1	1	1	10 31,632	219	+13	151	27	7	
							11 1,697	220	+14	86	23	7	
11036	9 23.653	2	+5	12	2	1	11 2,711	219	+15	64	11	7	
11037	9 28.749	318	+17	6	1	1	11 3,694	217	+15	18	5	3	
11038	9 29.684	328	-13	6	1	1	11050	11 5,631	96	-15	72	2	2
							11 6,643	98	-14	254	9	6	
11039	9 30.653	196	-7	24	1	1	11 7,620	97	-14	271	16	8	
							11 8,788	100	-14	133	2	2	
11041	10 2,647	217	-9	28	3	2	11 9,726	102	-15	97	4	1	
10 3,642	216	-10	38	2	2	1	11 10,676	102	-15	97	4	3	
10 4,676	217	-11	6	1	1	1	11 11,806	104	-14	85	1	1	
							11 12,630	103	-14	73	1	1	
							11 13,640	102	-15	78	5	2	
							11 14,638	103	-14	97	1	1	
11043	10 4,676	144	+12	339	2	2							
10 5,639	146	+13	618	21	5	1	11051	11 7,620	145	+13	134	18	5
10 6,653	145	+12	460	6	2	1	11 8,788	146	+13	206	5	3	
10 7,615	148	+11	454	11	6	1	11 9,726	148	+12	214	22	6	
10 8,640	144	+13	509	7	3	1	11 10,676	148	+14	142	15	5	
10 9,680	146	+12	375	22	3	1	11 11,806	150	+13	73	1	1	
10 10,617	143	+13	327	21	5	1	11 12,630	151	+13	97	2	1	
10 11,621	146	+13	321	30	10	1							
10 12,738	145	+11	331	7	5	1	11052	11 12,630	108	+3	12	2	2
10 13,643	148	+10	315	4	2	1	11 13,640	107	+3	134	15	5	
10 14,624	149	+11	267	7	3	1	11 14,638	108	+4	145	4	3	
10 15,631	148	+12	254	5	3	1							
10 16,637	145	+15	194	1	1	1							

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
11053	11 12.630	78	-12	24	1	1		12 14.681	326	-10	294	7	5
								12 15.635	329	-11	301	7	5
								12 16.630	333	-10	245	10	7
11054	11 16.690	306	+ 5	751	7	4		12 17.628	333	- 9	169	4	4
	11 17.638	304	+ 4	980	17	10							
	11 18.655	307	+ 4	829	55	14							
	11 19.698	308	+ 5	972	50	13	11066	12 12.606	319	+ 7	242	2	1
	11 20.669	308	+ 5	1197	78	16		12 13.701	319	+ 5	388	3	1
	11 22.801	308	+ 5	1220	19	10		12 14.681	319	+ 7	484	4	2
	11 23.690	307	+ 4	1165	18	8		12 15.635	317	+ 5	533	4	4
	11 24.623	308	+ 5	1186	22	11		12 16.630	317	+ 6	521	2	2
	11 25.667	309	+ 5	1169	35	9		12 17.628	320	+ 8	412	1	1
	11 26.703	311	+ 6	1089	24	8		12 18.647	318	+ 7	436	2	1
	11 27.722	313	+ 4	1065	6	4		12 19.618	319	+ 7	339	1	1
								12 21.754	317	+ 8	380	8	2
11055	11 18.655	325	-18	12	3	1		12 22.717	318	+ 7	315	2	1
								12 23.724	317	+ 6	145	1	1
11056	11 19.698	319	- 3	12	2	1	11067	12 13.701	297	- 7	194	2	1
								12 14.681	299	- 7	145	1	1
11057	11 24.623	230	-14	40	4	2		12 15.635	298	- 7	133	5	3
	11 25.667	232	-15	12	3	2		12 16.630	298	- 7	161	5	4
								12 17.628	300	- 6	97	2	2
11059	11 28.667	233	+ 5	12	1	1		12 18.647	302	- 8	73	1	1
								12 19.618	302	- 8	73	1	1
11060	11 29.623	232	-15	12	2	1	11068	12 14.681	293	- 7	630	4	2
	12 1.628	233	-15	16	2	1		12 15.635	289	-11	436	8	4
								12 16.630	289	-10	594	10	6
11061	11 30.688	113	+ 3	145	1	1		12 17.628	291	- 3	424	3	3
	12 1.628	111	+ 3	133	5	2		12 18.647	292	-10	254	3	2
	12 2.722	116	+ 5	109	9	3		12 19.618	293	-10	145	1	1
	12 3.713	115	+ 6	54	6	2		12 21.754	291	-12	242	1	1
	12 4.712	114	+ 3	88	13	5		12 22.717	292	-11	242	1	1
	12 5.717	117	+ 4	100	9	5		12 23.724	291	-12	267	6	1
	12 6.751	116	+ 4	66	6	3		12 24.658	293	-10	194	1	1
	12 8.733	118	+ 4	34	9	3	11069	12 18.647	27	+22	48	1	1
	12 9.710	116	+ 4	6	2	1							
	12 10.699	114	+ 4	6	2	1	11070	12 18.647	332	- 9	156	9	6
								12 19.618	334	-11	85	2	2
11062	12 5.717	56	+12	300	14	9		12 21.754	331	-10	60	9	3
	12 6.751	55	+ 8	381	18	10		12 22.717	332	- 9	6	1	1
	12 8.733	57	+11	375	84	11	11072	12 22.717	305	- 7	12	2	1
	12 9.710	58	+11	254	56	7							
	12 10.699	56	+11	209	25	8	11073	12 26.718	239	- 5	24	2	2
	12 11.717	58	+ 9	137	14	5							
	12 12.606	60	+10	109	3	3	11074	12 28.767	117	+ 1	12	2	1
	12 13.701	61	+ 8	48	3	1		12 29.661	119	+ 3	18	4	2
	12 14.681	63	+ 7	48	2	1							
	12 15.635	61	+ 9	48	2	1	11075	12 29.661	107	+13	13	2	2
	12 16.630	59	+11	97	2	1		12 30.609	105	+10	36	2	2
11063	12 8.733	48	+12	95	11	3		1 1.620	109	+12	101	3	3
	12 9.710	48	+12	82	15	4		1 2.753	112	+14	145	1	1
	12 10.699	50	+12	52	12	3		1 3.727	110	+14	139	17	6
	12 11.717	51	+10	36	6	2		1 4.709	110	+13	85	12	4
	12 12.606	52	+10	30	2	2		1 5.600	113	+15	266	5	3
	12 13.701	56	+ 9	18	9	3		1 6.598	112	+16	182	4	2
11064	12 11.717	329	-12	133	2	1		1 8.945	111	+13	12	1	1
	12 12.606	324	-10	242	2	2							
	12 13.701	327	-12	206	34	6							

TABLE IIIb UNNUMBERED GROUP SUMMARY

Date	L	φ	A	s	p	Date	L	φ	A	s	p
	°	°					°	°			
1 9.674	221	-12	12	2	1	9 6.729	247	+9	6	1	1
1 16.647	105	+15	12	1	1	9 6.729	277	+12	6	1	1
1 29.650	237	+2	12	1	1	9 7.660	190	+19	24	4	1
2 18.644	20	+8	6	1	1	9 8.656	190	-7	12	1	1
2 19.642	345	-25	24	3	1	9 11.648	108	+19	24	1	1
2 25.645	207	+13	24	2	2	9 12.647	150	+3	12	1	1
3 11.660	119	-22	24	1	1	9 15.616	159	-5	12	3	1
3 17.653	295	+11	12	4	1	9 30.653	319	-29	12	1	1
3 23.663	275	-10	12	1	1	10 3.642	212	+2	12	1	1
4 1.758	160	+5	12	8	1	10 3.642	248	+8	6	2	1
4 13.707	16	+4	12	4	1	10 5.639	196	-27	24	2	1
4 20.722	194	+6	12	1	1	10 6.653	161	+8	12	1	1
4 29.775	161	+12	24	4	1	10 23.650	313	+13	12	1	1
5 8.786	3	+8	12	2	1	10 24.631	293	+13	6	1	1
5 15.651	354	-2	12	1	1	11 1.697	145	+17	12	2	1
5 17.743	261	-2	12	1	1	11 3.694	186	+24	6	1	1
5 23.657	159	-5	24	3	1	11 4.623	151	+16	12	4	1
6 4.647	326	-8	12	3	2	11 4.623	169	-6	6	3	1
6 10.713	334	-4	6	3	1	11 4.623	203	-18	30	5	4
7 2.650	47	+2	40	3	2	11 9.726	69	+11	36	3	3
7 22.653	172	+8	6	1	1	11 30.688	237	+6	16	1	1
9 2.644	249	+19	12	3	1	12 29.661	129	+21	16	1	1

TABLE IV RECURRENT GROUPS

Group	Recurrence of	Group	Recurrence of
10888	10883	11017	10987
10979	10957	11030	11003 10988
10989	10971	11033	11005
10990	10972	11035	11015
11001	10979 10957	11061	11052
11003	10988	11066	11054

Errata

Circular	Page	Date	Item	Line	For	Read
36	3	Jan. 18, 1952	ΔL	9	+49	+59
	3	Jan. 18, 1952	ΔL	10	+51	+61
39	11	August	Monthly mean r		68.9	68.7
41	4	September	Monthly mean r		41.7	48.4
	7	Nov. 10, 1952	ΔL	1	-6	+6
	7	Nov. 10, 1952	ΔL	2	-7	+7
	7	Nov. 10, 1952	ΔL	3	-9	+9